

What is claimed is:

1. A method for recovering a titanium compound,  
comprising bringing a waste solution containing a titanium  
alkoxide into contact with a halogenating agent to convert  
5 the titanium alkoxide to a titanium halide and then distilling  
the solution containing the titanium halide to recover the  
titanium halide from the solution.

2. A method for recovering a titanium compound,  
10 comprising distilling a waste solution containing a titanium  
alkoxide and a titanium halide to recover a part of the titanium  
halide from the waste solution, bringing a residue in distiller  
given after the distillation into contact with a halogenating  
agent to convert the titanium alkoxide to a titanium halide  
15 and then distilling the solution containing the titanium halide  
to recover the titanium halide from the solution.

3. The method for recovering a titanium compound as  
claimed in claim 1 or 2, wherein the waste solution is a solution  
20 formed when a catalyst for polymer production or a catalyst  
component for polymer production is prepared.

4. A process for preparing a titanium halide,  
comprising bringing a waste solution containing a titanium

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alkoxide into contact with a halogenating agent to convert the titanium alkoxide to a titanium halide.

5. A process for preparing a titanium halide,  
5 comprising distilling a waste solution containing a titanium alkoxide and a titanium halide to recover a part of the titanium halide from the waste solution and bringing a residue in distiller given after the distillation into contact with a halogenating agent to convert the titanium alkoxide to a  
10 titanium halide.

6. The process for preparing a titanium halide as claimed in claim 4 or 5, wherein the waste solution is a solution formed when a catalyst for polymer production or a catalyst  
15 component for polymer production is prepared.

7. A process for preparing a catalyst for polymer production, comprising using the titanium halide obtained by the process of any one of claims 1 to 4 to prepare a catalyst  
20 for polymer production.

8. The process for preparing a catalyst for polymer production as claimed in claim 7, wherein the polymer is a polyolefin.